

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-25. (cancelled)

26. (Currently amended) An automated method for preventing mechanical stress to a discharge vessel of a discharge lamp, the method comprising using a control device to effectuate operations in a lamp, the operations comprising:

receiving an actuation indication for switching ~~on or switching~~ off of the lamp;
and

responsive to the actuation indication, providing control signals to coordinate cooling and power to the lamp, the control signals specifying: ~~at least one intermediate value for the cooling or the power to the lamp or both, which intermediate value is between full on and full off; a first predefined plurality of stepwise intermediate values for cooling between full on and full off; and a second predefined plurality of stepwise intermediate values for lamp driver power between full on and full off~~ at least one timing relative to the actuation indication and associated with the intermediate value; and parameters for turning the cooling and power to the lamp full on or full off, in accordance with whether the lamp is to be switched on or off, respectively.

27 (Canceled)

28. (Currently amended) The method of claim ~~27~~ 26, wherein the control signals ~~further specify~~ are provided based on a plurality of timings relative to the actuation indication, each timing being associated with at least one of the first and second plurality of stepwise intermediate values.

29. (Currently amended) A control unit for controlling a lamp driver and a cooling device for a discharge lamp, ~~the control unit effectuating operations comprising:~~
a memory that is configured to store a switching schedule that includes a first plurality of stepwise intermediate values for cooling between full on and full off; and a second plurality of stepwise intermediate values for lamp driver power between full on and full off, and
a processor that is configured to:
receiving receive an actuation indication for switching ~~on or switching~~ off of the lamp; and
responsive to the actuation indication, providing control signals to coordinate cooling and power to the lamp according to the switching schedule
~~, the control signals specifying:~~
~~—— at least one intermediate value for the cooling or the power to the lamp or both, which intermediate value is between full on and full off;~~
~~—— at least one timing relative to the actuation indication and associated with the intermediate value; and~~
~~—— parameters for turning the cooling and power to the lamp full on or full off, in accordance with whether the lamp is to be switched on or off, respectively.~~

30 (Canceled)

31. (Currently amended) A ~~The~~ control unit ~~as claimed in of~~ claim 29, ~~which is provided for adjusting wherein the processor is configured to control power of the cooling device as a function of the current supplied instantaneously to the lamp or as a function of power of the lamp driver, and/or adjusting lamp control parameters as a function of the instantaneous power of the cooling device.~~

32. (Currently amended) A ~~The~~ control unit ~~as claimed in of~~ claim 29, wherein the ~~operations comprise~~ switching schedule includes reducing power of the lamp and power of the cooling device stepwise, until the cooling is switched off before the lamp is ~~switching~~ switched off ~~responsive to controlled power reduction without cooling.~~

33. (Currently amended) A ~~The~~ control unit ~~as claimed in of~~ claim 29, comprising including:

a first input for detecting a parameter of a cooling device, which cooling device acts on the lamp, and

a second input for detecting a lamp driver control parameter, and

wherein the processor provides other control signals ~~are to~~ the cooling device and a lamp driver ~~and are adjusted responsive to signals detected at~~ based on the first and second inputs in such a way that there is no excursion from a predetermined range of the lamp temperature during a given time interval ~~after the actuation indication~~.

34. (Currently amended) The control unit of claim 29, ~~wherein~~ including a lamp driver ~~is incorporated in the control unit~~.

35. (Previously presented) A lamp driver for driving a discharge lamp and a cooling device for the discharge lamp, which lamp driver comprises at least the control unit according to claim 29.

36. (Currently amended) An assembly comprising the control unit of claim 29 and a lamp driver, the lamp driver being internal or external to the control unit and comprising a trigger circuit for operating the discharge lamp, wherein the control unit controls the trigger circuit and a the cooling device via a first and a second output, respectively.

37. (Currently amended) An assembly ~~as claimed in of~~ claim 36, wherein the control unit detects the lamp current and/or the lamp voltage and/or the lamp power via the trigger circuit, which is connected with the second input of the control unit.

38. (Previously presented) A lighting unit comprising a discharge lamp, the assembly of claim 36; and the cooling device.

39. (Currently amended) A lighting unit ~~as claimed in claim 38~~, comprising:
 a discharge lamp,
 a lamp driver that is configured to provide power to the discharge lamp,
 a cooling device that is configured to cool the discharge lamp,
 a first sensor for detecting ~~a cooling power~~ an output of the cooling device,
~~which cooling power acts on the lamp, and/or~~
 a second sensor for detecting a lamp temperature, ~~wherein the~~ and
 a control unit ~~is provided for controlling~~ that is configured to control at least
one of the lamp driver and the cooling device responsive to ~~a signals~~ of the first
~~sensor~~ and/or the second sensor in such a way that there is no excursion from a
predetermined range of the lamp temperature during a timing interval subsequent to
the actuation ~~of the lighting unit~~ indication.

40. (Currently amended) ~~A~~ The lighting unit ~~as claimed in~~ of claim 39, wherein the first sensor is provided for detecting a property of ~~a gas stream leaving a nozzle of an~~
air flow produced by the cooling device ~~and being directed onto the discharge lamp.~~

41. (Currently amended) The lighting unit of claim 40, wherein the property is at least
one of pressure, volume, and ~~or~~ velocity.

42. (Currently amended) ~~A~~ The lighting unit ~~as claimed in~~ of claim 39, wherein the second sensor is arranged on ~~the~~ a discharge vessel of the lamp for detecting the temperature of ~~the~~ a wall of the discharge vessel.

43. (Currently amended) A projection system comprising at least the lighting unit
according to claim ~~38~~ 39.

44. (Currently amended) A control unit ~~(23)~~ for controlling a lamp driver ~~(21,22)~~ and a cooling device ~~(3)~~ for a discharge lamp ~~(1)~~ at least during switching off of the lamp ~~(1)~~ in such a way that the power of the lamp ~~(1)~~ and the power of the cooling device ~~(3)~~ are alternately and/or stepwise reduced over a plurality of steps of intermediate power levels for each of the lamp and the cooling device.

45. (Currently amended) A The control unit ~~(23)~~ ~~as claimed in~~ of claim 44, comprising a microprocessor unit and a memory for storing at least one switching schedule according to which the power of the lamp ~~(1)~~ and the power of the cooling device ~~(3)~~ are alternately and/or stepwise reduced.

46. (Currently amended) A The control unit ~~(23)~~ ~~as claimed in~~ of claim 44, which is provided for adjusting the power of the cooling device ~~(3)~~ as a function of the current supplied instantaneously to the lamp ~~(1)~~ or as a function of the lamp power, and/or adjusting the lamp current or the lamp power as a function of the instantaneous power of the cooling device ~~(3)~~.

47. (Currently amended) A The control unit ~~(23)~~ ~~as claimed in~~ of claim 44, which is provided for reducing the power of the lamp ~~(1)~~ and the power of the cooling device ~~(3)~~ stepwise in such a way that the cooling power is ultimately switched off before the lamp is switched off ~~(1) is operated ultimately at reduced power without the cooling device (3).~~

48. (Currently amended) A The control unit ~~(23)~~ ~~as claimed in~~ of claim 44, comprising:

 a first input for detecting a cooling power of the cooling device ~~(3)~~, which cooling power acts on the lamp ~~(1)~~, and

 a second input for detecting a lamp current and/or a lamp voltage and/or a lamp power,

wherein an output power of the lamp-(4) or the lamp current and/or the cooling power of the cooling device-(3) can be controlled as a function of the information supplied via the first and the second input at least during switching off of the lamp-(4) in such a way that there is no excursion from a predetermined range of the lamp temperature.

49. (Currently amended) A lamp driver-(2) for driving a discharge lamp-(4) and a cooling device-(3) for the discharge lamp-(4), which lamp driver-(2) comprises at least the control unit-(23) according to claim 44.

50-55 (Canceled)

56. (Previously presented) The method of claim 26 wherein the control signals are responsive to at least one stored switching schedule.

57. (Currently amended) The ~~method of claim 56~~ control unit of claim 29, wherein the ~~stored-switching schedule comprises stepwise and/or alternate~~ includes alternating steps of values for power to the lamp and/or power to the cooling device.

58 (Canceled)

59. (Currently amended) The ~~method~~ control unit of claim-~~58~~ 29, wherein the memory includes an other switching schedule for values relate to switching on the lamp.

60-62 (Canceled)

63. (Previously presented) The method of claim 26, wherein the control signals for coordinating cooling power to the lamp are provided responsive to stored timing values.

64-66 (Canceled)

67. (New) A method for embodiment in a lighting system that includes a lamp and a cooling device, comprising:

- providing a first level of lamp power to the lamp and a first level of cooling power to the cooling device during operation of the lamp,
- sensing an indication of switching off the lamp,
- reducing the cooling power below the first level of cooling power while maintaining the lamp power at or above the first level of lamp power for a first time period, and
- reducing the lamp power below the first level of lamp power after the first time period.

68. (New) The method of claim 67, wherein the first time period is predefined.

69. (New) The method of claim 67, wherein the first time period is based on a measure related to a temperature of the lamp.

70. (New) The method of claim 69, wherein the measure is based on a detected air flow from the cooling device.

71. (New) A method for embodiment in a lighting system that includes a lamp and a cooling device, comprising:

- providing a first level of lamp power to the lamp and a first level of cooling power to the cooling device during operation of the lamp,
- sensing an indication of switching off the lamp,
- controlling the lamp power and the cooling power such that the cooling power is reduced to a zero level before the lamp power is reduced to zero.

72. (New) The method of claim 71, including, after sensing the indication of switching off, reducing the cooling power below the first level of cooling power before reducing the lamp power below the first level of lamp power.

73. (New) The method of claim 72, including raising the lamp power above the first level of lamp power.

74. (New) the method of claim 72, including, after sensing the indication of switching off, raising the lamp power above the first level of lamp power.

75. (New) The control unit of claim 44, wherein the power to the cooling device is first reduced, before the power to the lamp is reduced.

76. (New) The control unit of claim 44, wherein the power to the cooling device is reduced to zero before the power to the lamp is reduced to zero.

77. (New) The control unit of claim 44, wherein the power to the cooling device is reduced based on a measure of air flow from the cooling device.

78. (New) The control unit of claim 44, wherein the power to the cooling device is reduced based on a measure of temperature of the lamp.

79. (New) The control unit of claim 44, wherein the power to the lamp is reduced based on a measure of temperature of the lamp.

80. (New) A method for embodiment in a lighting system that includes a lamp and a cooling device, comprising:

- applying lamp power to the lamp and cooling power to the cooling device,
- receiving a measure of a parameter associated with the cooling device, and
- adjusting at least one of the lamp power and the cooling power based on the measure.

81. (New) The method of claim 80, wherein the parameter includes an air flow from the cooling device.